“The Bust of a Young Zulu Woman”

by Doctor Paul Broca

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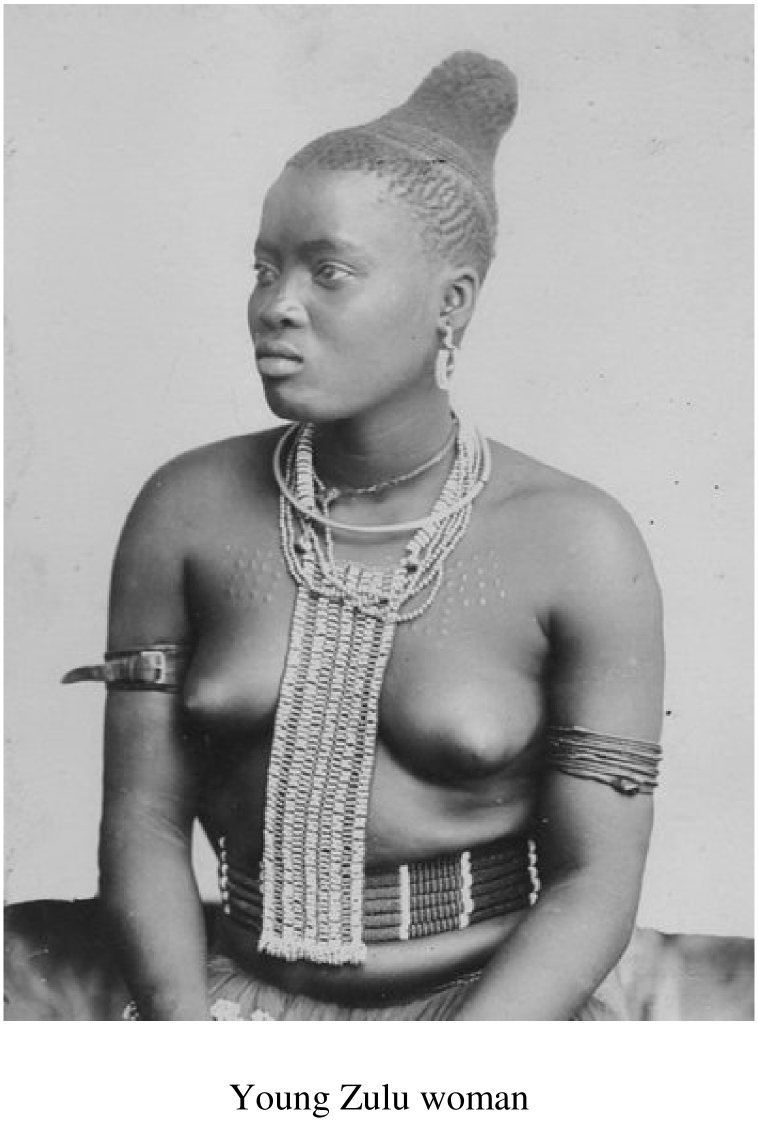

Young Zulu woman

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A young Zulu woman, nineteen years of age, died last week at Beaujon Hospital; she had been under the care of Doctor Féréol.

The body, not having been claimed, and therefore being destined for dissection, Doctor Féréol kindly informed me of its availability, and I saw to it that it was transported to our Society’s laboratory. Before proceeding to its being dissected, Monsieur Chudzinski, our lab’s lead assistant, himself cast this bust of the Zulu, which I am pleased to present to you today.

We know, of course, that the Zulus belong to the Bantu race, but geographically they are very close neighbors to the Hottentots and Bushmen. This proximity and the crossbreedings that have been able to be the consequence perhaps explains certain particularities of the skull of the young Zulu.

With the Hottentots, as with the Bushmen, the frontal region is very narrow and at the same time quite convex. The forehead’s two bony prominences, which are very close to each other, mingle so to speak in a single middle curve. As you can see, messieurs, these characteristics are observable to a high degree in our young Zulu. However, her skin is black like that of the true Negroes, instead of being a fuliginous yellow like that of the Bushmen.

Soon, when the woman’s skeleton is made ready, one will be able to see whether the proportions of the limbs are those of Negroes or those of Bushmen. It is no doubt useful to remind you that the antibrachial index, or ratio of the length of the forearms to that of the arms, averages 80 with Negroes, 74 with whites, and that this index measure for Hottentots and Bushmen, far from approaching the one of Negroes, falls on the contrary below the one for whites. Thus, it is only 70 with the Venus Hottentot, a number which the antibrachial index of whites only very rarely descends to.

Lastly, I wish to show you this mold; it’s of the young Zulu’s leg and foot, which present the usual characteristics of what is found in Negroes. Note that the foot is flat, and the calf muscle projects out little and is very elongated.

DISCUSSION

***Marquis* DE *NADAILLAC*.** Could you tell us, Doctor Broca, how this young woman’s hair is implanted? Does it present the bristles of a brush appearance that distinguishes the Hottentots?

Doctor PAUL BROCA. The hair of our subject does not differ from that of ordinary Negroes. I had not taken up your question earlier, Marquis de Nadaillac, because results from some recent research studies indicate that the embedment of hair à la brush bristles is at least a contestable fact, that it is only an appearance due to the high degree of encoilment of the hair. When the individual hairs are very short and the encircled region created by their encoilment is tiny, they twist around each other, forming small cylindrical torsades akin to peppercorns. From this originated the idea that each torsade corresponds to a cluster of paintbrush bristles, separated from its neighbors by smooth intervals. This disposition of the hair is indeed normal with the Hottentots, but it is sometimes also observed in Negroes. Now, many of you remember that two years ago, on the initiative of Doctor Topinard, a commission was charged with the task of going to the Hôpital de la Charité to examine a Negro whose hair presented this disposition. The commissioners, having shaved the skin of the nape of the neck, discovered that the hairy follicles were uniformly distributed in regular rows, as is the case with us.

Doctor PAUL TOPINARD. I have two observations to make. First, I have measured very carefully the corpse of this woman and have compared its proportions with those of five or six cases of skeletons or bodies of Bushmen that science possesses. I intend to review these measurements on this woman's skeleton (once it is ready for examination), but at present I must say that they do not yield the proportions of African Negroes in general, represented among others by the Bantus, but correspond instead to those of Hottentots. The woman's height, in particular, is that of Hottentots and not of Bantus. My opinion is definitively that the woman is a Bantu and Hottentot crossbreed, and is ***certainly not*** a pure Zulu.

One most curious quality about this woman, among others, lends support to my opinion. She has extremely narrow eyes, similar to those of the Chinese, and I believe it so much the more necessary to bring this to your attention than any other part of her body that I have not been able to well understand.

An eye classified as ***Chinese*** has three characteristics. It is small, oblique, and narrow. Its smallness is mainly in appearance only: if you spread out the skin adjoining the eye's internal and external angle, the smallness as well as the obliqueness disappear. The principal element producing the apparent obliquity is a pinching and slight increase in height of the skin leading from the outside corner of the eyelids. Here is what accounts for the narrowness: at a variable height from outside the upper eyelid a cutaneous fold forms and accentuates itself, such that it reaches the point of being composed of two thin leaves of skin set back above the inward angle and then it falls abruptly, forming a vertically stretched veil that hides the caruncle. The caruncle is visible in its entirety in Europeans, but is more or less hidden in Chinese-type eyes—a clear distinction. In Chinese-type eyes the prominent narrowness hides one-third, two-thirds or all of the caruncle, depending on how pronounced the narrowness is, and one may easily note from 0 to 5 degrees its development according to the method you devised, Doctor Broca, for determining this characteristic.

With the Negress in question, if one represents the European eye as a 0 and the maximum degree of narrowness of the eye as a 5, her eyes would rate a 3 or 4. Now, about 1800, Barrow, after returning from China and taking up his residence in Capetown, emitted a doctrine which today seems most erroneous; he asserted that the Chinese and Hottentots are similar, except for their hair. And, in fact, the comparative drawings that Barrow published show oblique eyes in the two sexes and some other common characteristics. Well, it turns out that this Negress from the Cape precisely presents to us an eye that is just as narrow as that of the Chinese and most assuredly as that of the Indochinese.

I would be remiss to conclude my point without reminding you that the eye called ***Chinese*** is sporadically observed in Europeans, mainly in females and children. In the latter it tends to diminish or disappear with the advancement of age, and this trait is absolutely distinct from another rare morphological detail of the eye—the presence of a winking membrane or vestige of the third eyelid of certain animals.

Finally, I must point out that this Negress does not possess the yellowish or oak tint of the Hottentots, but rather the black tint of the Bantus; she is not steatopygic, but I nevertheless make her out to be a crossbreed. She does not have hair that appears like peppercorns, but you know that this is no longer regarded as a distinguishing characteristic, as it had formerly been believed. Tuft-like hair, bushy hair or hair that looks like peppercorns is only an appearance that depends on the scarcity and shortness of the hair and on the degree that it coils up in a tight spiral; such hair is generally what one sees in a crowd of typical Negroes.

Monsieur ABEL HOVELACQUE. Doctor Broca, you told us that this young woman's skin is black. Her corpse is at present still in the laboratory and I went to view it a little while ago; I must say that I have not found her skin color to be that which distinguishes the Bantus. I questioned Monsieur Chudzinski on this point, and he told me that death had blackened the cadaver's skin since it had been there. In fact, at the bottom of some wrinkles one will see vestiges of a less dark color. It remains then for us to examine the skeleton in order to accurately determine the woman’s race. However, her hand, such that a somewhat superficial examination has shown, appears to me to be the hand of a Bushman.

I do not believe, Doctor Topinard, that the question regarding the embedment of the hair in Bushmen has been definitively settled. I spoke at the Exposition with Capetown’s Governor-General, Monsieur Spencer Todd, and he affirmed that the hair of Bushmen is embedded in a bush-like manner. I carried on with my questions and asked him if he had seen what it looked like shaved, and he responded that he had seen on convicts what could not be truly said to be shaved hair, but instead was hair that had been cut as closely to the scalp as possible with scissors. In the presence of such testimonials and of those of travelers to Africa, it seems to me that it is difficult for European writers to settle this question.

Doctor PAUL TOPINARD. I recall, Monsieur Hovelacque, that the same official you spoke to at the Exposition, Monsieur Todd, has since then written a letter which has been published in our *Bulletins*, asserting that the individual hairs of Bushmen are uniformly distributed on the surface of the scalp.

Doctor PAUL BROCA. I have, messieurs, prepared another brief report titled “On a Regressive Anomaly of the Arch of the Aorta in a Young Zulu Woman,” whose main finding I believe is worth presenting now inasmuch as it highlights one more intriguing feature that the woman’s body possesses.

In dissecting this young woman’s body, Monsieur Chudzinski came upon an interesting anomaly.

As some of you know, in man the arch of the aorta gives birth successively to three large blood vessels: 1) the brachiocephalic trunk which after a short ways bifurcates, producing the right subclavian artery (S) and the right carotid artery (C); 2) the left carotid artery (C′); and 3) the left subclavian artery (S′). In carnivores the aorta’s arch only furnishes two trunks: 1) a premier trunk, called the ***innominate***, that divides itself into three arteries—S, C, and C′; 2) a second trunk, which is the left subclavian artery (S′).

In ordinary monkeys, cebids, and pithecoids, the arch of the aorta presents the same type as that manifested in carnivores. In anthropoids the same case is found among gibbons and orang-outangs, but chimpanzees and gorillas present the human type.

The two types observed in primates can therefore be formulated in the following way:

Man, gorilla, chimpanzee	**2 + 1 + 1**
Orang-outang, gibbons, and all other apes	**3 + 1**

The difference between these two types is not very great because we know that in man the origin of the left carotid artery is only separated by a small interval from that of the brachycephalic trunk; the disappearance of this small interval is sufficient in order for these two major blood vessels to merge. Nevertheless, the difference of the two types is not without importance, messieurs, because it is in correspondence with the shape of the thorax, which is wider and less long in bipeds than in quadrupeds. Any time that the second type appears in man it can therefore be considered as a regressive anomaly.

Well, as you may surmise, the location of the branches of the aorta's arch present numerous anomalies; the explanation for many of them cannot be found in comparative anatomy and can only be attributed to accidents of development. The most interesting anomalies are those found in man that are normal in other animals, and the one I shall now show you in the name of Monsieur Chudzinski is of this variety.

Here, messieurs, you can see that the arch of the Zulu woman's aorta only gives birth to two large vessels. The second is the left subclavian artery, which is normal. The first one, though, much more voluminous, vertically ascends for about 1 centimeter, then divides into two trunks, namely: the brachiocephalic trunk which goes to the right and divides itself as usual, and the left carotid artery which goes to the left and soon retakes its normal position along the length of the neck. It turns out that this particular arrangement of the blood vessels is completely like the one that we observe in the orang-outang!